Assignment 3

Q1: Style GAN:

1. Load a pretrained StyleGAN model and print its architecture. Choose a layer of interest to visualize and print its weights. (1 marks)

2. Modify the code to perform style mixing between two randomly generated latent vectors at the chosen layer. Display the resulting images. (1 marks)

3. Choose another layer of interest and visualize its weights. Explain any differences or similarities with the weights of the previous layer. (1 marks)

4. Explain the concept of style mixing in StyleGAN. How does it differ from traditional style transfer methods? How does it affect the generated images? (1 marks)

5. How does the depth of the chosen layer affect the quality of the generated images in style mixing? Why? (0.5 marks)

6. Modify the code to perform style mixing with more than two latent vectors. Display the resulting images. (0.5 marks)

Q2: Build a GAN from scratch for CIFAR-10 dataset using PyTorch. Use CNN models for generator and discriminator networks. Optimize the learning rate and mention the best learning rate for the model. Plot generator results before, during (for few or all epochs) and after training. (5)

Submission Deadline: 25th April, 2023